

Extended Hydrologic Outlook

October 12, 2021

- The Climate Prediction Center (CPC) is forecasting below normal rainfall for October through December.
- A transition from ENSO-neutral to La Niña is favored in the next couple of months, with a 70-80% chance of La Niña during winter 2021-22.
- Atlantic Multidecadal Oscillation (AMO) is currently in the warm phase:
 - Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase

U. S. Seasonal Outlooks

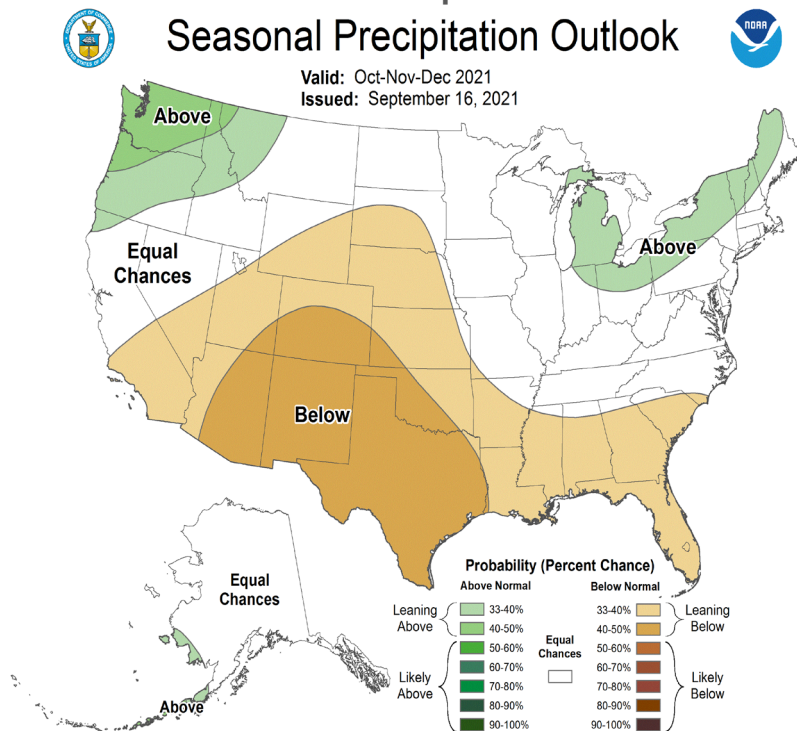
October - December 2021

The seasonal outlooks combine the effects of long-term trends, soil moisture, and, when appropriate, ENSO.

Precipitation

Seasonal Precipitation Outlook

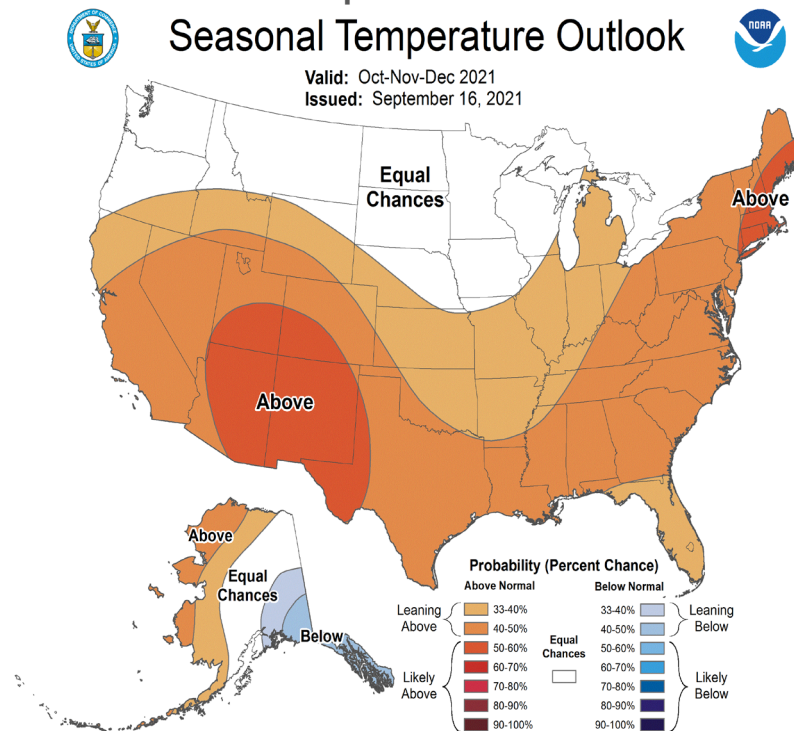
Valid: Oct-Nov-Dec 2021
Issued: September 16, 2021

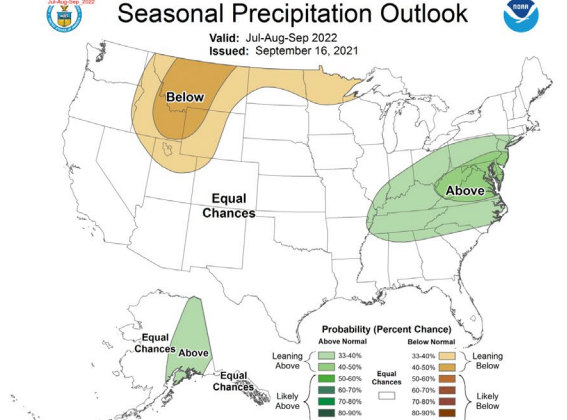
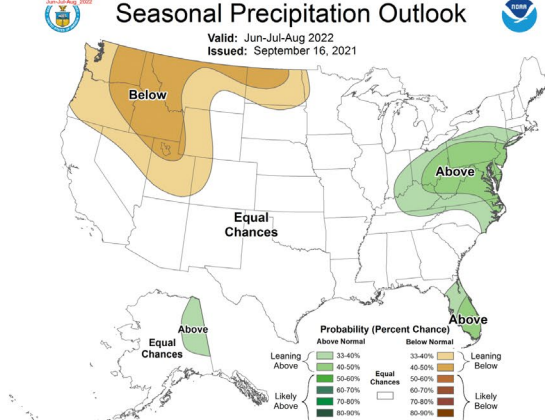
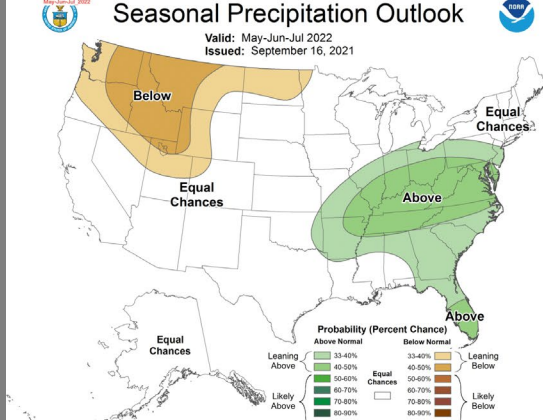
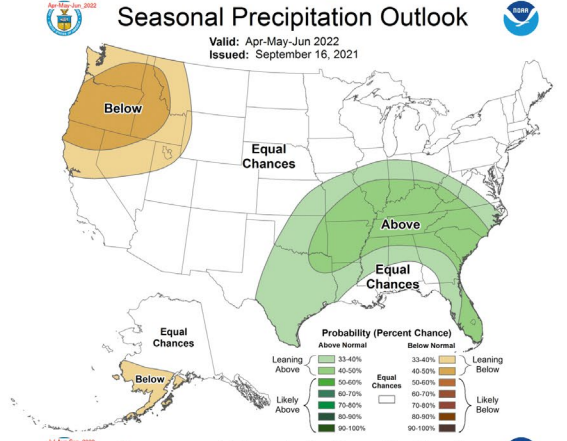
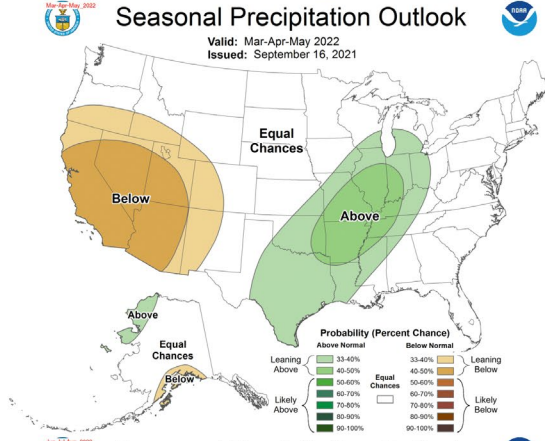
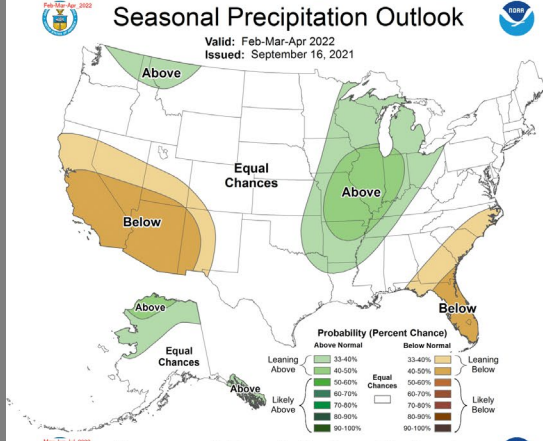
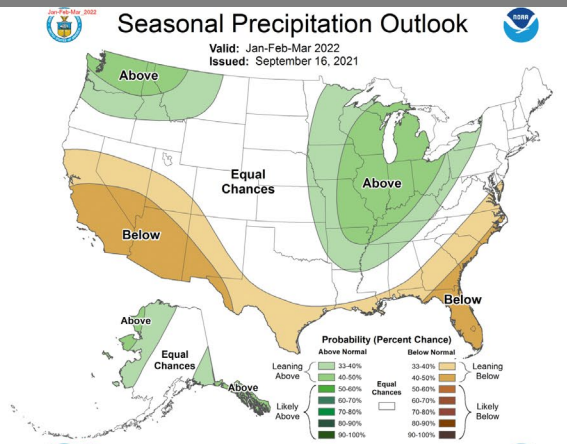
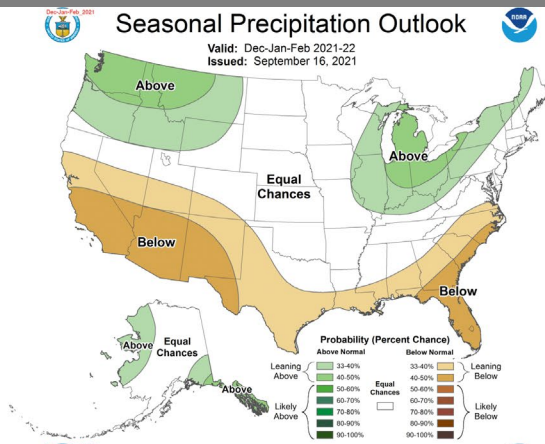
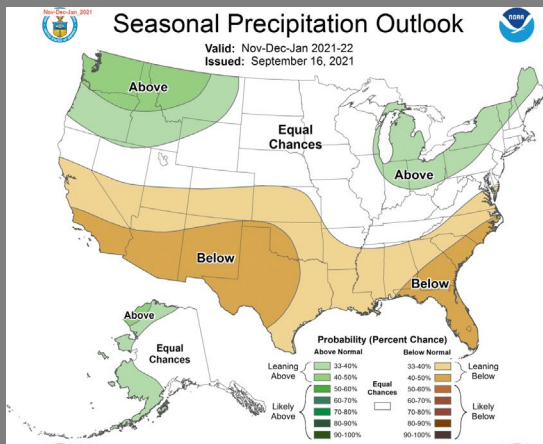


Temperature

Seasonal Temperature Outlook

Valid: Oct-Nov-Dec 2021
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Teleconnections to South Florida

Climate anomalies being related to each other at large distances:

El Niño Southern Oscillation (ENSO)

El Niño increases the chances of a wetter-than-normal dry season and decreased tropical activity, La Niña increases the chances of a drier-than-normal dry season and increased tropical activity (both have most influence in south Florida from November through March).

Pacific Decadal Oscillation (PDO)

Increases variations of south Florida dry season rainfall

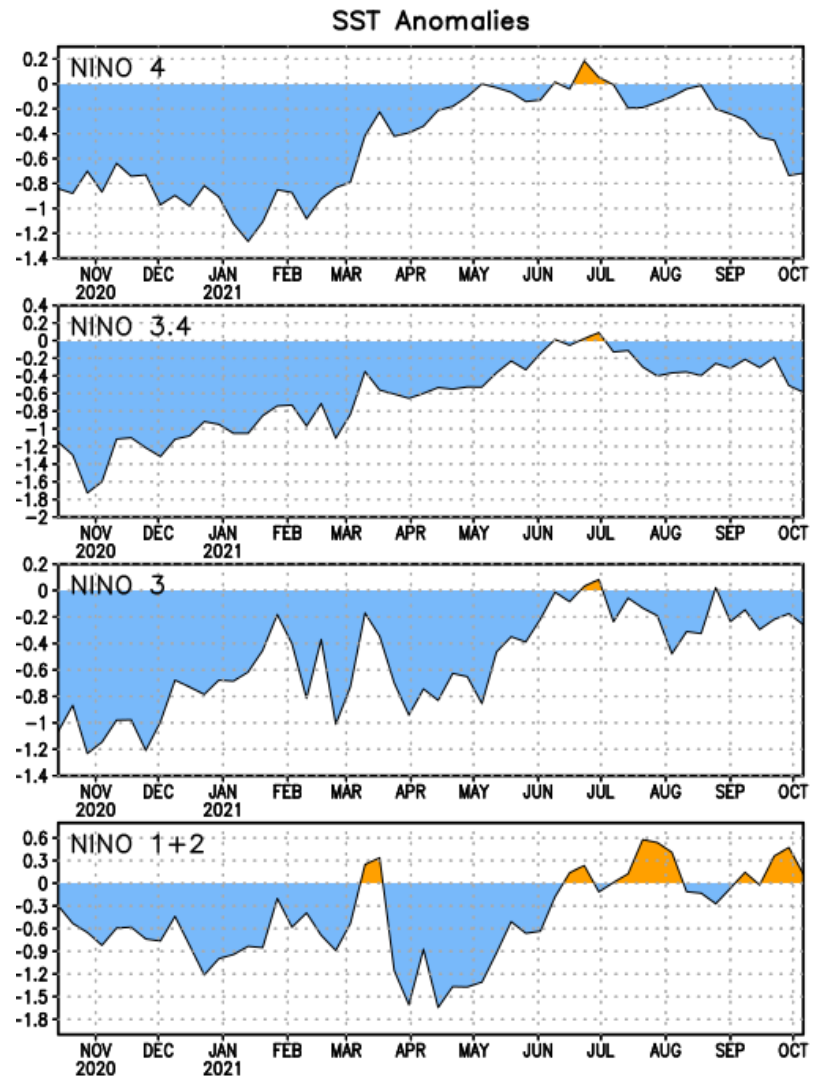
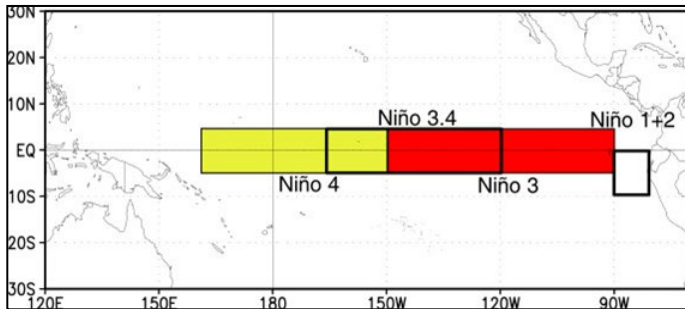
Atlantic Multidecadal Oscillation (AMO)

Average annual inflow to Lake Okeechobee is nearly 50% greater during the warm phase compared to the cold phase of the AMO, easterly flow toward south Florida affected by phase

Niño Region SST Departures (°C) Recent Evolution

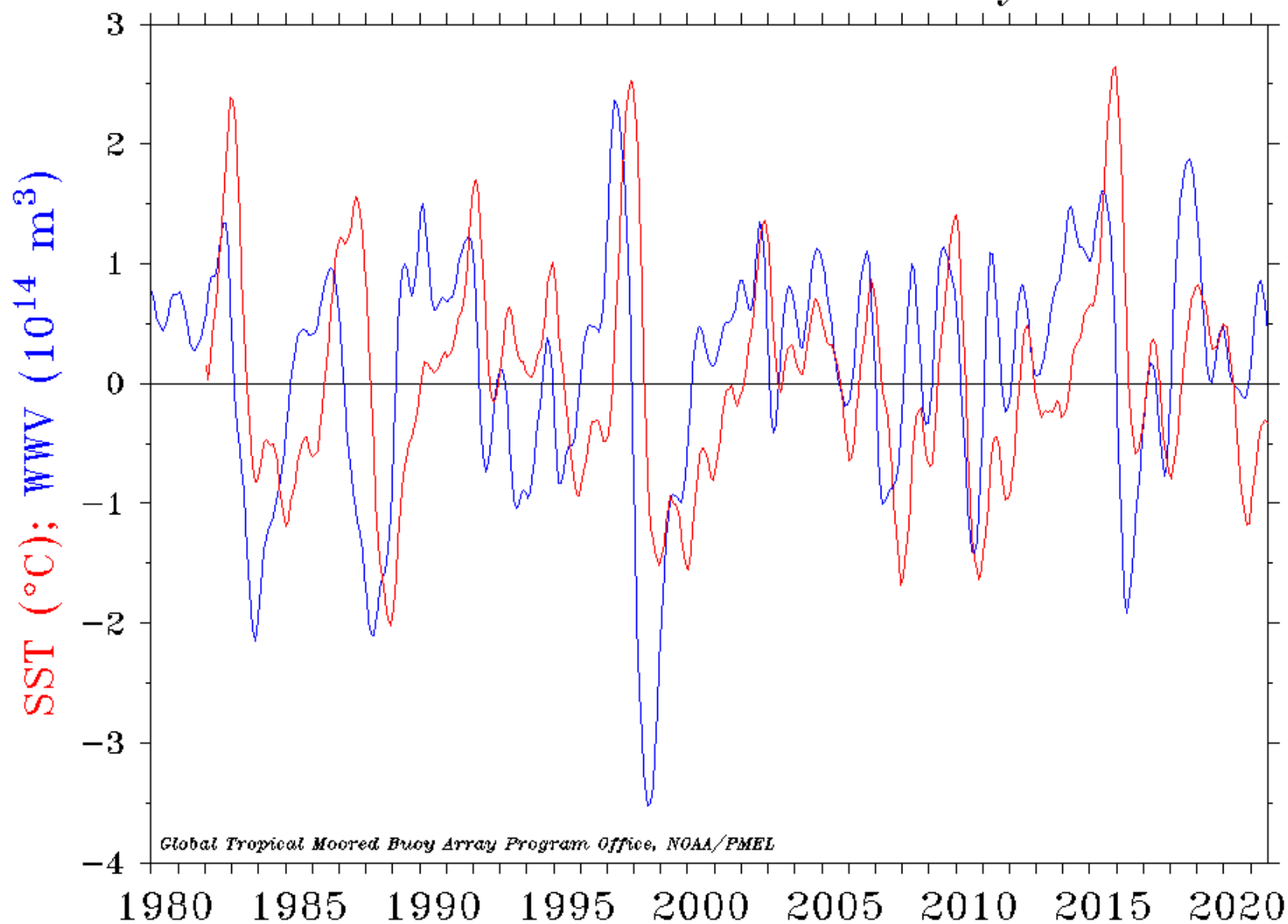
The latest weekly SST departures are:

Niño 4	-0.7°C
Niño 3.4	-0.6°C
Niño 3	-0.3°C
Niño 1+2	0.1°C

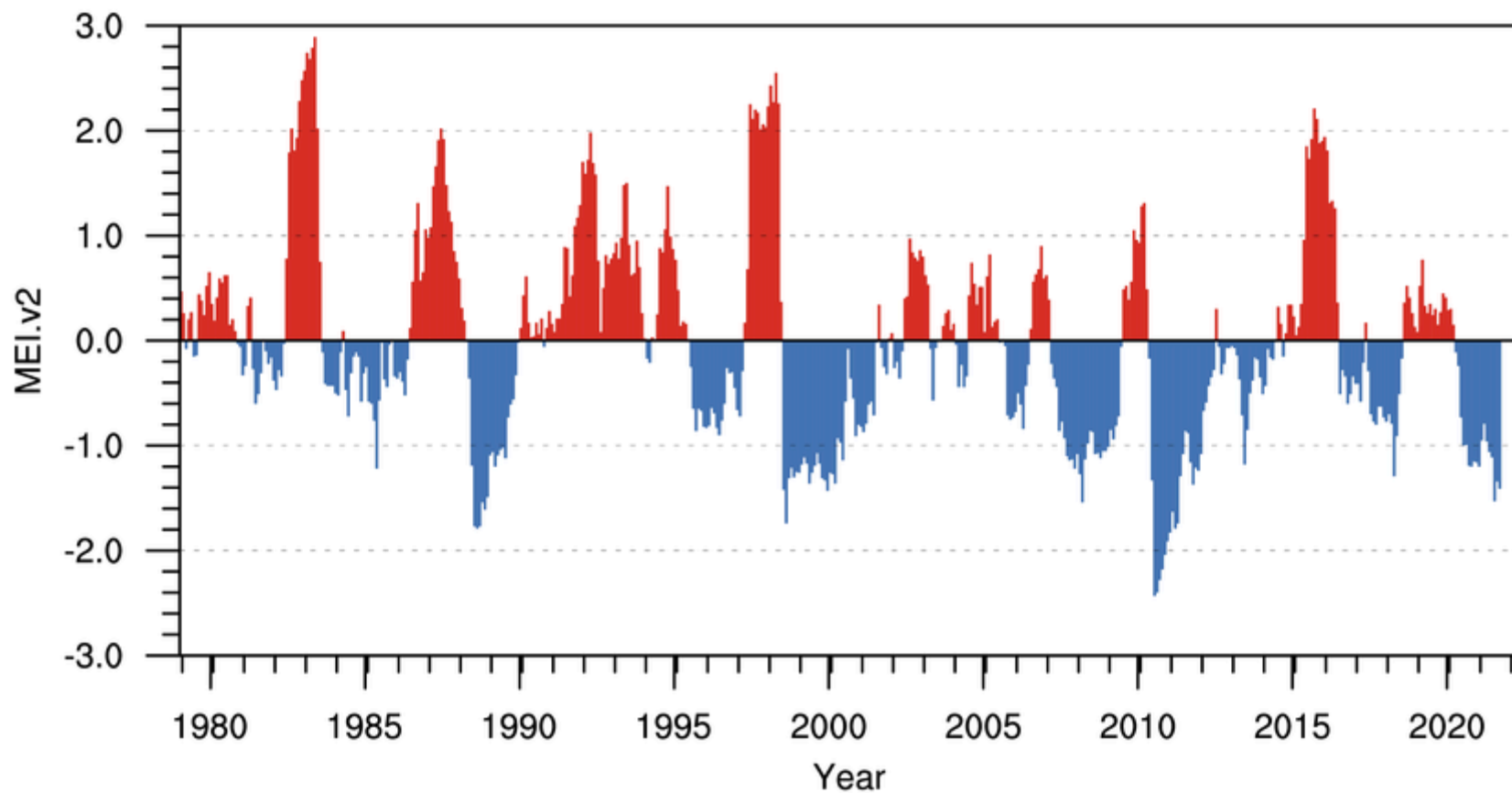


Starting this week, the weekly sea surface temperature data is based on OISSTv2.1 (Huang et al., 2021).

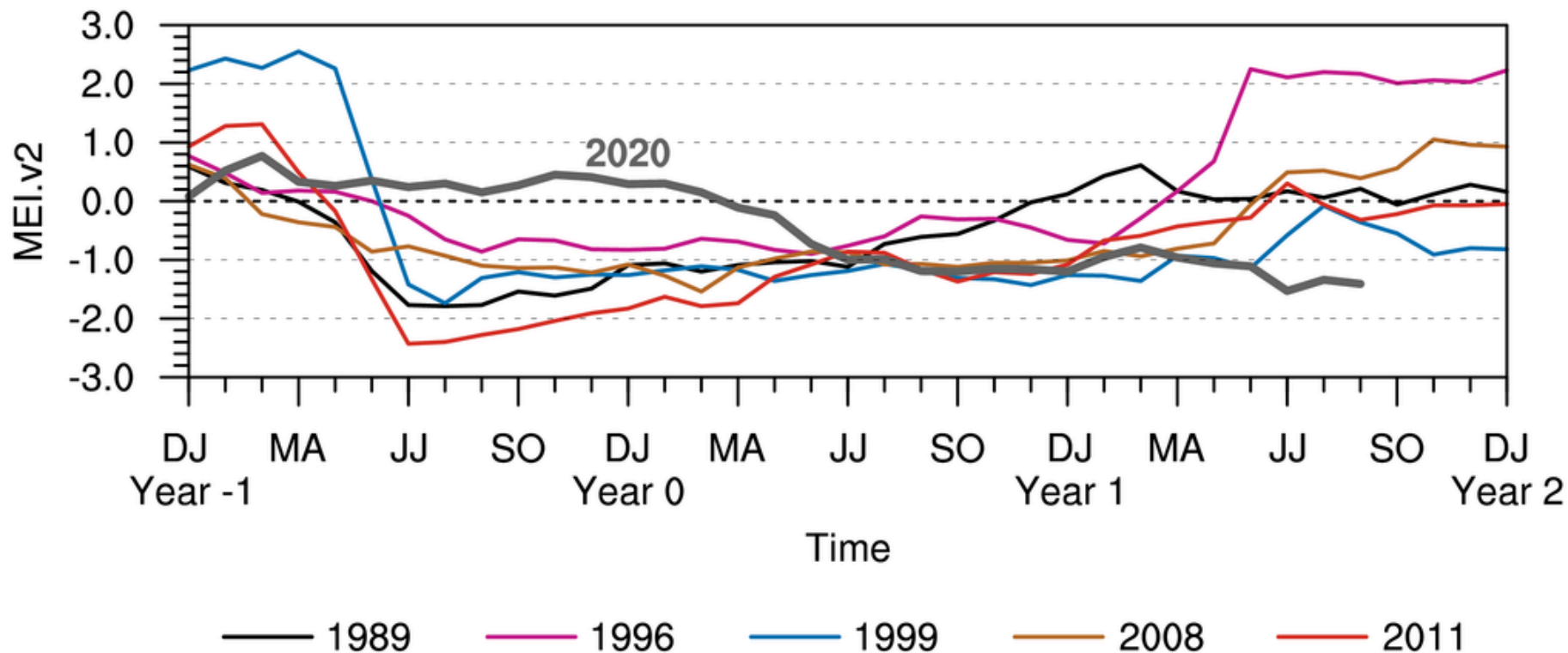
Warm Water Volume (5°N–5°S, 120°E–80°W) and NINO 3.4 SST Anomaly



Multivariate ENSO Index Version 2

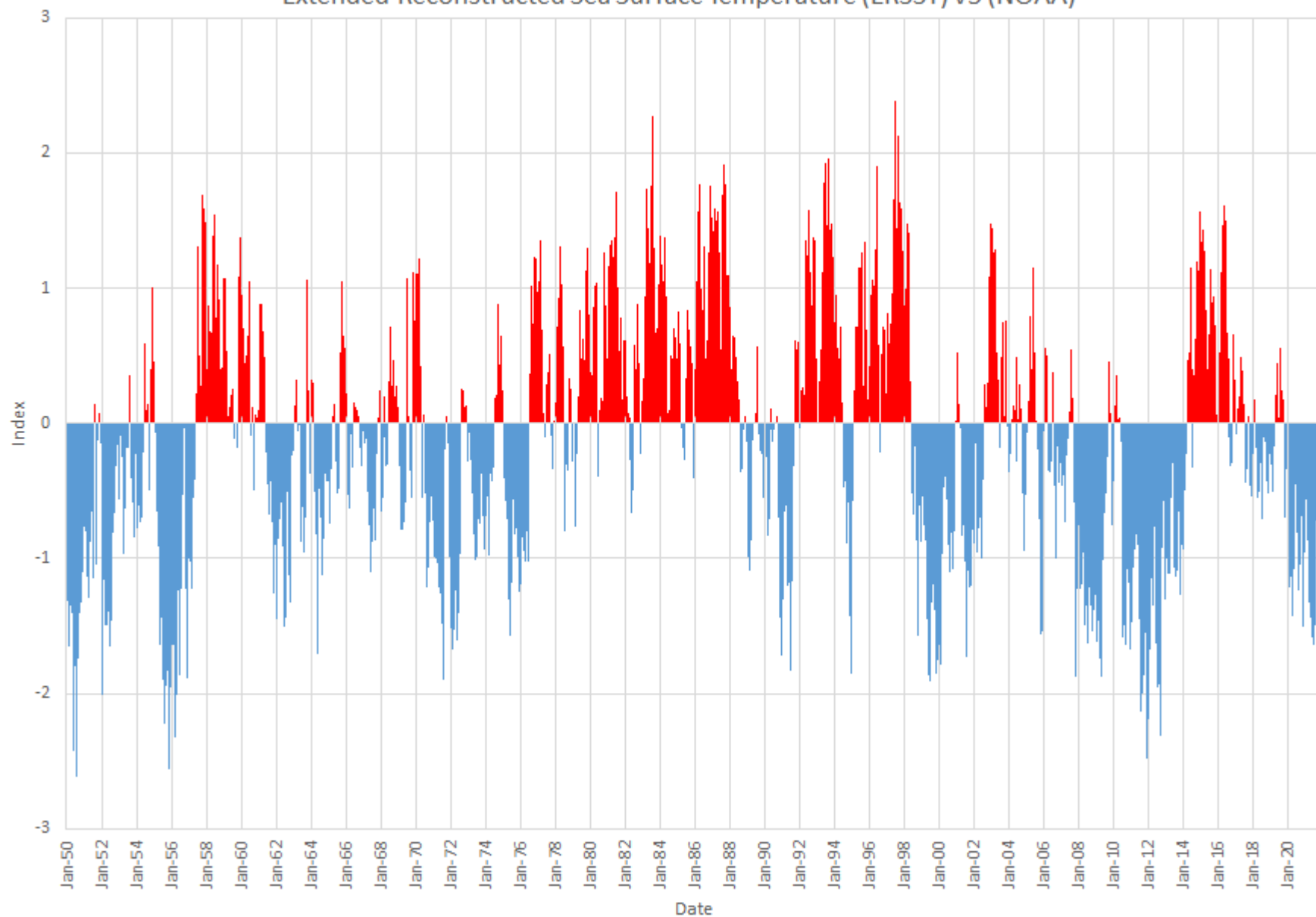


MEI.v2 Evolution of Current ENSO Event in Historical Context

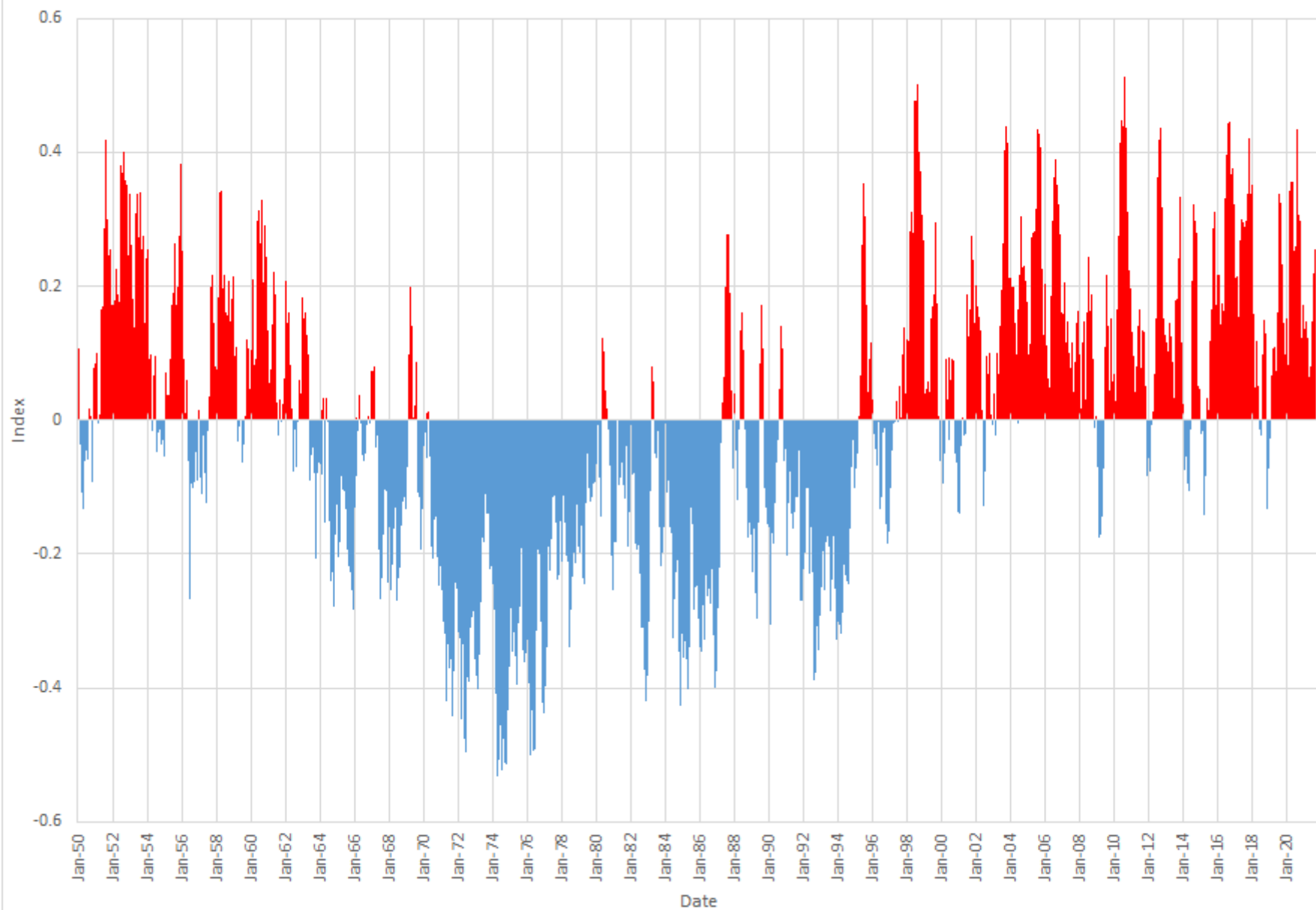


Pacific Decadal Oscillation

Extended Reconstructed Sea Surface Temperature (ERSST) v5 (NOAA)



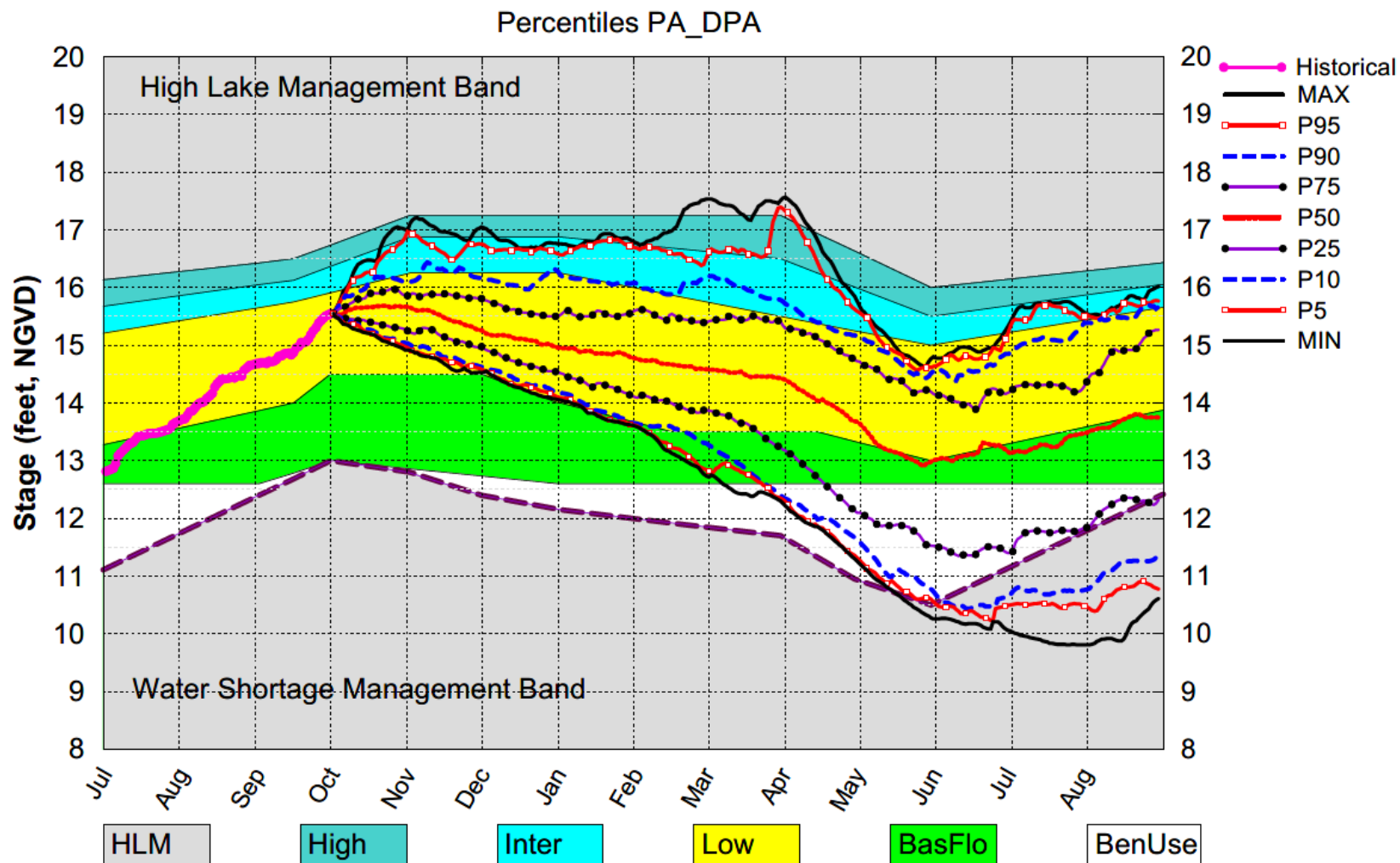
Index of the North Atlantic Temperatures (AMO) from Kaplan Extended SST V2 (NOAA)



October DPA Assumptions

- The October 1, 2021 Dynamic Position Analysis (DPA) simulation is based on historical climatic conditions spanning the period 1965-2005. This DPA posting is made with the South Florida Water Management Model (SFWMM) v6.7.4 (Tamiami Trail) which includes the following improvement(s):
 - Improvements to include the Combined Operational Plan (COP)
- The October 1, 2021 DPA resets the initial stages for Lake Okeechobee (LOK) and the Water Conservation Areas (WCAs) on September 1st of each year of the DPA simulation and conditions the simulation to real time data during July to achieve real time stages on October 1st for LOK and WCAs.
- The Lake Okeechobee operations follow the Lake Okeechobee Regulation Schedule (LORS2008). Modeling assumptions are consistent with modeling performed for LORS2008 Supplemental Environmental Impact Statement (SEIS).
- LOK Temporary Forward Pump operations will be in place, whenever necessary, to improve water supply deliveries from LOK under low LOK stages.
- STA surface area values are modified to reflect current flowways under operation. STA depths are maintained to a minimum of 6 inches using Lake Okeechobee releases.

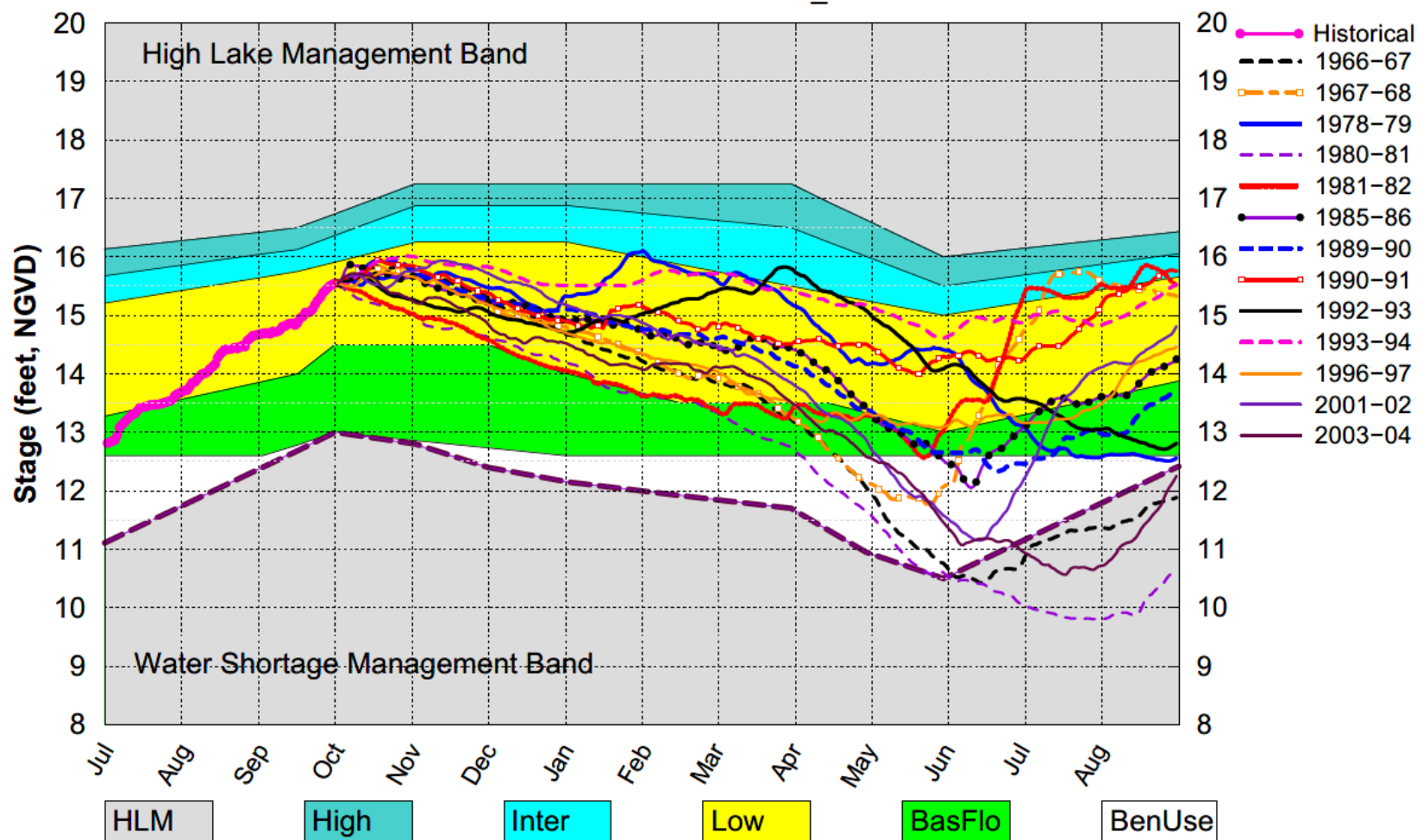
Lake Okeechobee SFWMM Oct 2021 Position Analysis



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM Oct 2021 Position Analysis

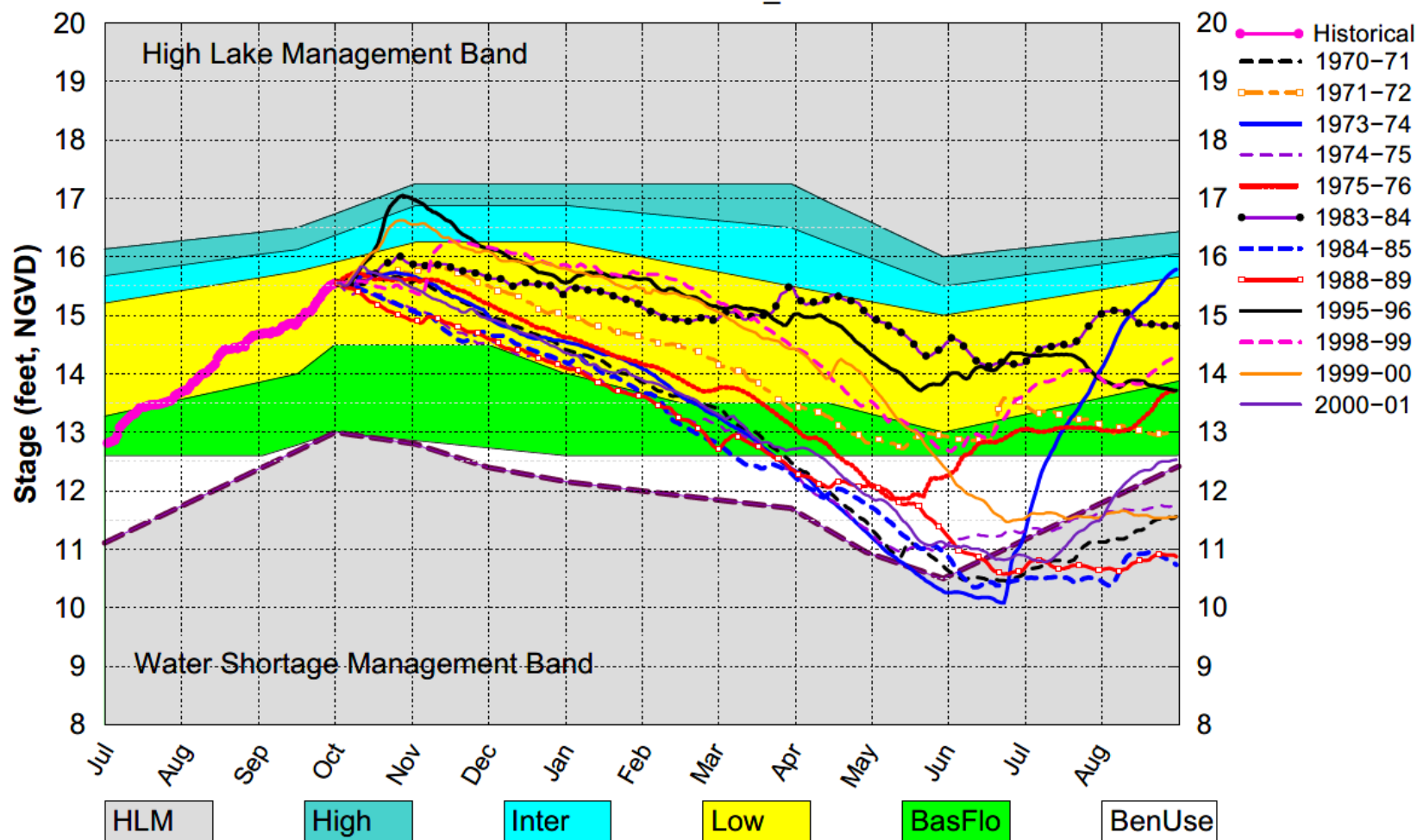
All ENSO Neutral Years Plot PA_DPA



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM Oct 2021 Position Analysis

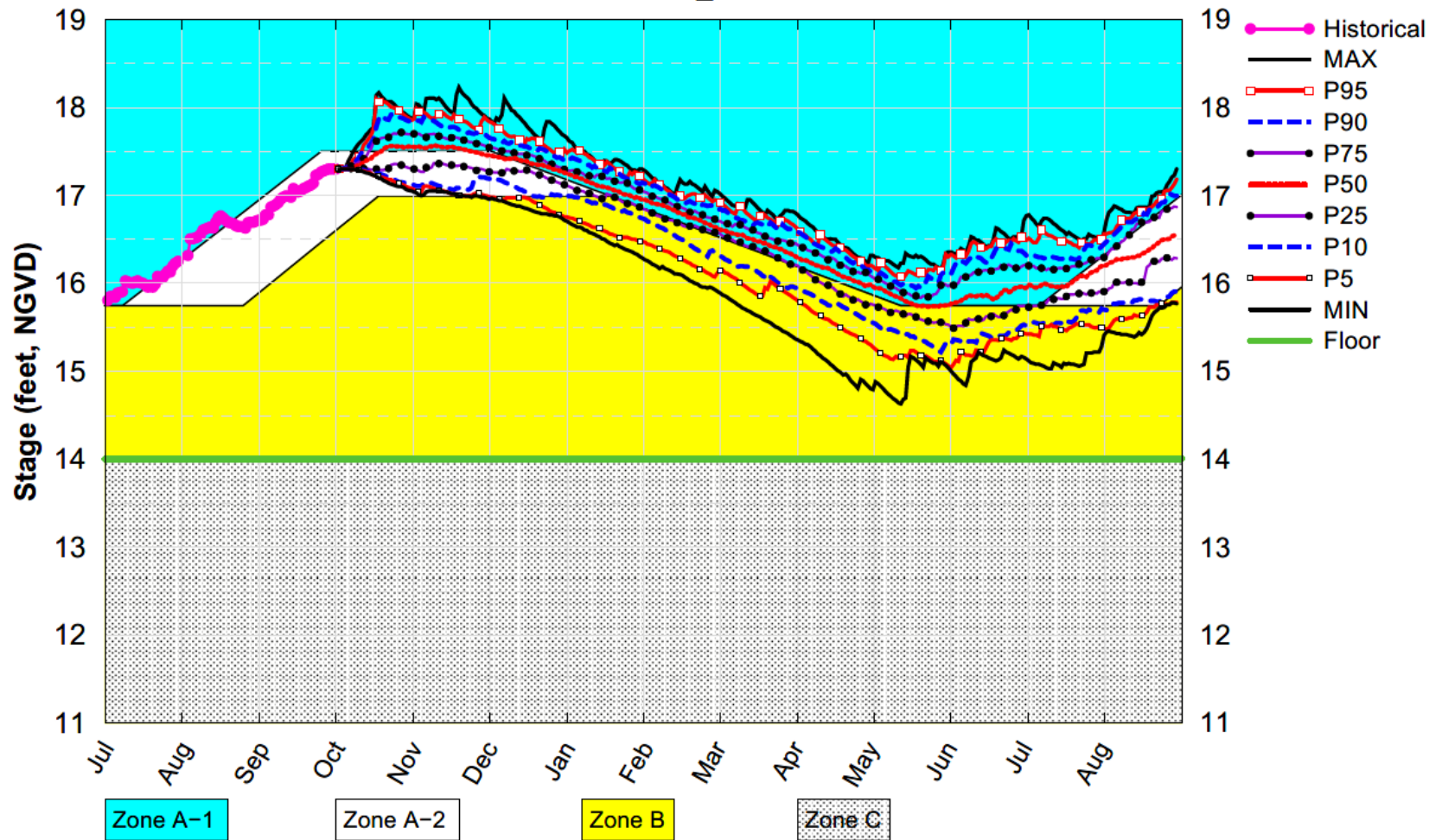
All La Nina Years Plot PA_NINA



(See assumptions on the Position Analysis Results website)

WCA1 SFWMM Oct 2021 Position Analysis

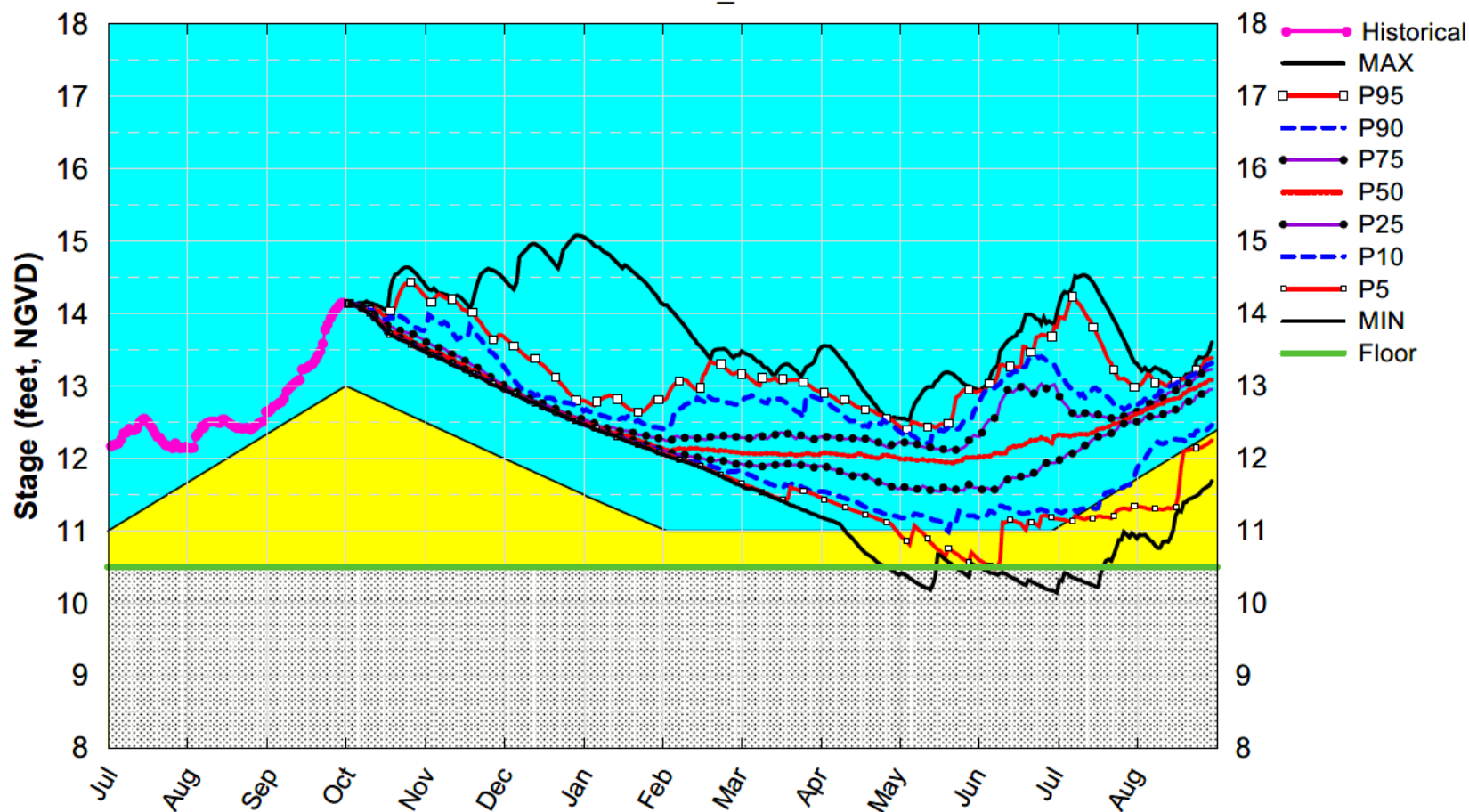
Percentiles PA_DPA



(See assumptions on the Position Analysis Results website)

WCA2A SFWMM Oct 2021 Position Analysis

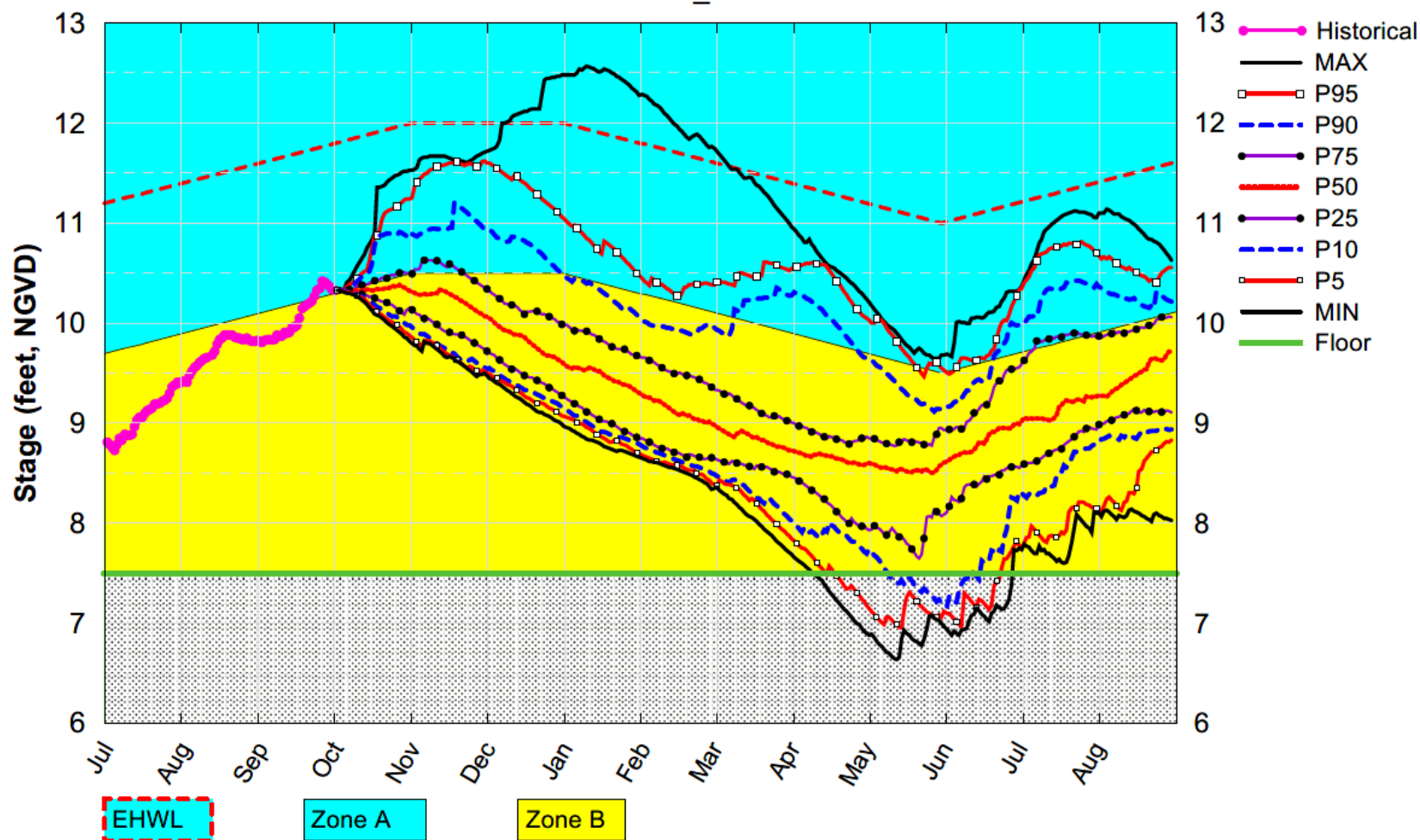
Percentiles PA_DPA



(See assumptions on the Position Analysis Results website)

WCA3A SFWMM Oct 2021 Position Analysis

Percentiles PA_DPA



(See assumptions on the Position Analysis Results website)